

whether double talk has been detected or not. See also, column 11, lines 9-11. Such a binary approach is also described as prior art in Applicants' specification. For example, as noted in paragraph 9 of Applicants' specification in the "Background of the Invention" section, it is known to use double talk detectors that produce a binary output, for example, based on a singular metric such as pre-echo canceler uplink microphone energy level thresholds or some form of correlation thresholds. However, such binary confirmation or judgments as to whether a double talk is occurring can perform poorly in noisy environments because they may falsely indicate the presence of near end speech or only give a "yes/no" indication.

As such, Takahashi appears to describe a device similar to that noted in Applicants' Background of the Invention section. Applicants claim a different circuit, method and apparatus that among other things, generates and/or is responsive to double talk activity probability data. The Takahashi reference fails to teach or suggest, among other things, producing double talk activity probability data since there is no discussion of providing any range or degree of confidence levels to control subcomponents of an echo canceler. Among other advantages, the probability data generator and resulting double talk activity probability data establishes a confidence level with respect to the detection of a double talk condition based on multiple metrics, for example. The probability data can provide more accurate indication of a double talk condition and allows for independent adjustment or control of different components of the echo canceler circuit which may require different degrees of confidence in the presence of double talk to make the appropriate control decisions. (See paragraph 20 of specification). Since Takahashi only generates a binary representation of whether double talk is detected or not as opposed to probability data, the claims are in condition for allowance. Other distinctions will also be recognized by those of ordinary skill in the art.


As to claim 2, this claim requires, among other things, an echo canceler adaptive filter that receives the double talk activity probability data and downlink data and produces echo estimation data based thereon to adjust a rate of echo cancellation adaptation. As noted above, Takahashi does not generate the double talk activity probability data and its subcomponents are not responsive to double talk activity probability data and therefore do not react to different degrees of confidence (probability data) in the presence of double talk to make the appropriate control decisions. Accordingly, this claim is also in condition for allowance.

Claims 3, 7, 8, 10-21, 23 and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of Younce et al. (U.S. Patent No. 5,274,705). Applicants respectfully reassert the relevant remarks made above with respect to Takahashi and as such, these claims are also in condition for allowance at least for these reasons.

Applicants respectfully submit that the claims are in condition for allowance and respectfully request that a timely Notice of Allowance be issued in this case. The Examiner is invited to contact the below listed attorney if the Examiner believes that a telephone conference will advance the prosecution of this application.

Respectfully submitted,

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By: 
Christopher J. Reckamp
Reg. No. 34,414

Vedder, Price, Kaufman & Kammholz, P.C.
222 North LaSalle Street
Chicago, Illinois 60601
PHONE: (312) 609-7599
FAX: (312) 609-5005